



# Bacterial Leaf Streak - Cereals

## Occurrence and management:

- Found across the Prairies
  - Prevalence varies due to level of seed infection and weather
    - Severe weather events can result in plant tissue damage providing access points for bacterial infection
      - Strong winds, hail, heavy frequent rain, soil particle damage, thunderstorms, and frost
      - The BLS pathogen needs wounds or natural openings (stomata) to infect plant tissues, while bacterial cells are splashed by rainfall or irrigation droplets
    - Limited information on varietal susceptibility/resistance
- Use an integrated approach combining seed choice, rotation, and monitoring of the crop and grain

## Symptoms Occur On:

- Leaves, head tissues and grain (A-E)

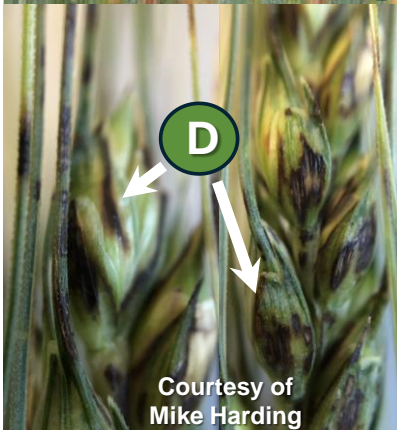
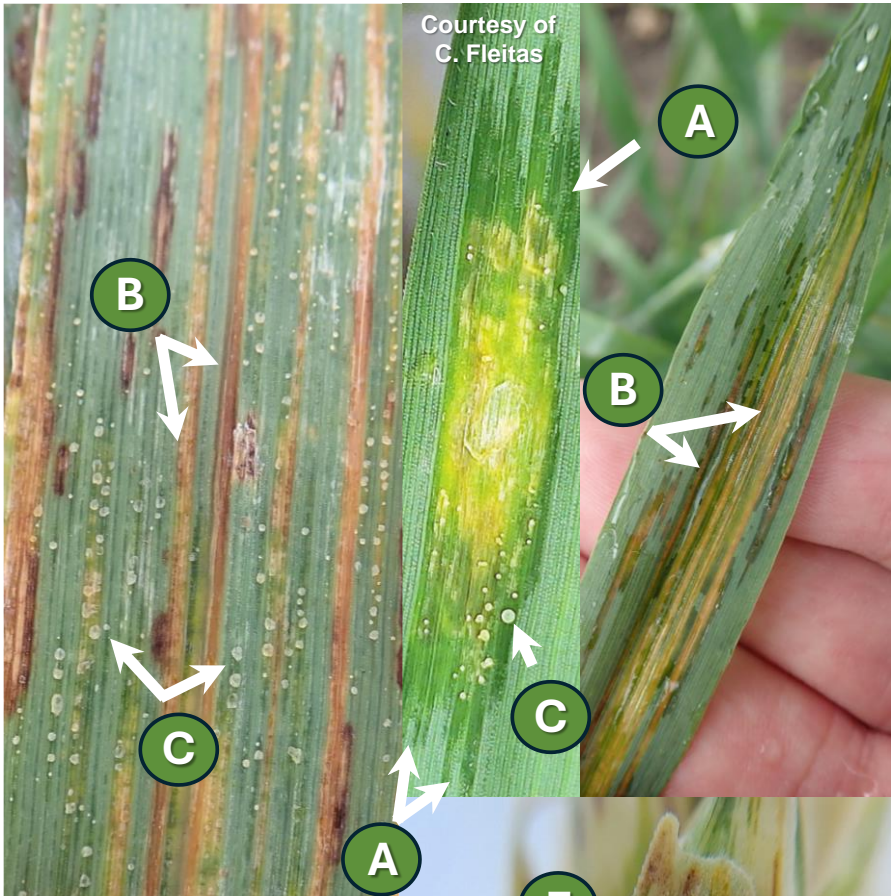
## Initial and mature symptoms:

- Initially water-soaked lesions/streaks that may be translucent (light can pass through) (A)
- Lesions eventually enlarge and take on a brownish appearance as they dry (B)
  - Humid conditions lead to oozing masses of bacterial cells (C)
  - Dried masses of bacterial cells may give the lesion a glazed appearance, which reflects sunlight
  - When wet, affected tissues will be slippery

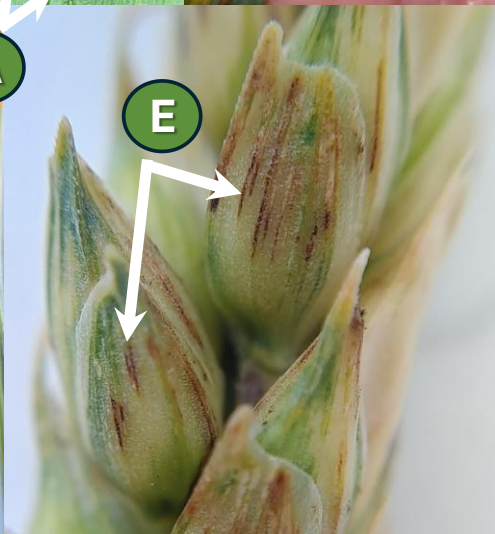
## • Head and grain symptoms

- Shiny purplish brown/black streaks on glumes, awns and the upper stems (D, E)
- Seed infections can occur resulting in brownish discolouration of kernels

Courtesy of  
C. Fleitas



Courtesy of  
Mike Harding





# Management Strategies

Rotation to non-host for => 2 years

Wheat

Canola

Field  
peas

Variety  
choice\*

\*Currently most varieties are likely susceptible. Although limited varietal reaction knowledge is available, more information is expected over the next several years

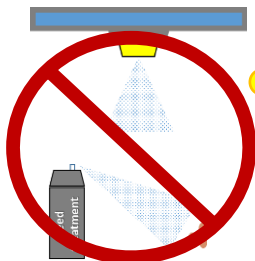


\*\*Field scouting and accurate diagnosis will be critical to identify in-crop BLS/black chaff issues on leaves and heads. This will be especially critical for crops under irrigation and/or following severe weather events or frost events that damage tissues

\*\*\*Seed  
Source

\*\*\*Use an alternate seed source if symptoms of bacterial leaf streak are observed in the growing crop and have been confirmed by laboratory testing. Seed testing options are limited at present but will likely improve over the next several years. Under tight rotations, old crop residues may also be an important source of the BLS pathogen

Seed treatments and in-crop fungicide applications\*\*\*\*



Volunteer control



\*\*\*\*Fungicide-based seed treatments and foliar fungicides are not effective against BLS



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# Thank you to the PCDMN Phase 2 Funders



**Canada**

